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approach

Diamond Anniversary 75th Year of Naval Aviation

John W. Williams

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Adios!

MY three years as editor of Approach are up and it is time for me to move on. Next month Lt. Dave Parsons, a RIO from the VF 102 "Diamondbacks", will take the helm. I hope he enjoys it as much as I have.

By far the most satisfying part of putting Approach together was seeing my own articles in print. Ironically, I didn't need to be the editor to do that. I only wish I'd had that perspective when I was in a squadron. Luckily, a lot of Approach readers do see the value of writing about their profession because the flow of articles from the fleet has been strong. That has made my job here easier and more rewarding.

I thank you all for the experience. Fly safe.

Lt. John Flynn

inside approach

Vol. 31 No. 12

Cover drawing of F/A-18A Hornets by Approach illustrator John W. Williams

FEATURES

A Night to Remember 2
By Lt. Dave Parsons. An F-14 has a tough time returning to the aircraft carrier.

"Where Are Your Wheels?" 8
By Lt. James W. Galanie. Don't turn a gear-up pass into a wheels-up landing.

"On the Bolter, You've Got Engine Problems" 11
By Lt. D.C. Knutson. An A-7E's engine damaged by FOD holds up for a safe landing.

The Sting 12
By LCdr. G.P. Tornatore. A helo pilot with severe vertigo almost dunks his H-53.

Fuelishness 16
By Lt. Bud Bishop. A minor fuel indicator problem wasn't so minor after all.

Pull Your Fingers Out of Your Head 18
By Lt. Terry Jones. A study shows that most aircrews could use hearing protection.

We're at 18,000 Feet, Aren't We? 24
By Lt. Gregory E. Upright. A marginal radar altimeter makes the A-6 mission disquieting.

They're Trying to Kill You 26
By Lt. Brian Wood. CV ops in heavy weather call for closer fuel state monitoring.

A Funny Thing Happened on the Way to the Ship 28
By Lt. Chuck Smith. Equipment redundancy can give a false sense of security.

A Different Kind of Midair 30
By LCdr. George R. Standridge. A T-2 student pilot creases the wing of a civilian Cessna.

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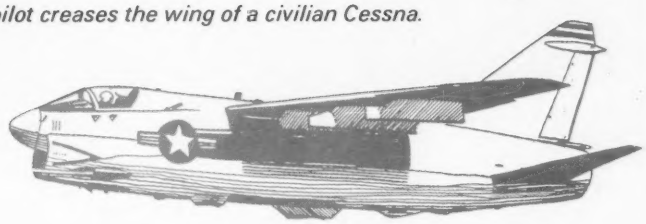
DEPARTMENTS

Air Breaks 6
Anymouse 14
Bravo Zulu 22
Letters 32



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A Night to Remember

By Lt. Dave Parsons

. . . As we soared by the ship on the wave-off, it was too dark to make out any details that might explain the mysterious disappearing ball . . .

"NINETY-NINE TARBOX, rigging MOVLAS Station 3. . ."

"Station 3 . . . where the hell is that?" I wondered. Wherever it was, it was beginning to look as if tonight was not going to be a normal CASE III recovery. We had already been waved off once, following our flight lead, two other F-14s from our sister squadron, and a pair of A-7s, into the "penalty box." It wasn't unusual for the first two A-7s to get waved off. But now there were six of us at 1,200 feet, dirty and burning gas.

Something was definitely wrong with the ball; we'd gone CLARA in the middle and only half the datums were visible in close. Since no one else had trapped, I assumed it wasn't my pilot's fault. He was a nugget, but the pass wasn't that bad. As we soared by the ship on the wave-off, it was too dark to make out any details that might explain the mysterious disappearing ball.

I couldn't imagine CATCC letting this many aircraft push if the delay was merely a slow launch. Perhaps we had caught a taxiing jet in front of the lens as they wrapped up the launch. But the Station 3 call? Was the Whale parked too far forward? Was the deck really moving big time? It wasn't adding up.

"Uh. . . Do you know where station 3 is?" my pilot asked. "Never heard of it, but something's screwy down there," I replied.

Station 3, Station 3 — I racked my memory and came up blank. Two cruises, more than 1,000 Tomcat hours and that was a new one on me. I had a hunch that I wasn't alone. I was willing to bet most of our partners in the bolter pattern didn't

. . .It was painfully obvious that tanking with flaps down was not easy. The slower speed was causing the basket to move more than usual. . .

know where it was either. Paddles would have more information shortly. As if on cue, Paddles asked us where we lost the ball and whether we had regained it in close. Something was definitely wrong and it didn't appear the solution was soon coming.

What we didn't know was that an A-7 on Cat 4 from the preceding launch had wedged its launch bar firmly in the dustpan — the assembly that was supposed to guide the launch bar into the box. A pitching deck combined with a wet surface had caused the nosewheel to cock just as the launch bar entered the narrow throat of the assembly. With wings folded, the A-7 did not foul the landing area and the ball was still visible from the fantail at deck level. However, as the first aircraft called the ball, it was obvious that the folded starboard wing was obscuring the lens in close.

While the first aircraft were making their approaches, human and mechanical muscle were trying to free the troublesome launch bar. Despite the help of a tractor and every able-bodied man available, the launch bar refused to budge. The comm circuits between the LSO platform, tower, CATCC and the bridge were alive with discussion of the alternatives. While it was becoming obvious that the standard lens would not hack it with the A-7 parked on Cat 4, one of the A-7s suffered a PC-2 hydraulic failure, necessitating an immediate landing. The Boss conferred with the Captain and the LSO and decided to rig the MOVLAS on Station 3, the starboard side.

Meanwhile, every two minutes, aircraft were making stabs at the deck. As flight deck personnel were rigging the MOVLAS, and the emergency A-7 was working his way around the pattern, our flight lead *landed his F-14 without a ball of any kind.* That really bolstered the Boss's confidence in the LSOs. However, the LSOs knew better — the timing had been just right on that one. The pilot was one of the best F-14 drivers in the air wing. He'd had the pass wired with good calls from the LSOs and a momentarily steady deck.

As the MOVLAS was being rigged for the A-7, we waved off a second time, tank-plus-one on the ball. In the cockpit we concentrated on turning downwind and assessing the situation. I asked my pilot for confirmation of fuel state off the tapes. My gut feeling told me we'd really need to hawk the gas tonight. Paddles now began the Station 3 brief. "Ninety-nine, MOVLAS Station 3, starboard side, fly a normal ball, but watch out for the tendency to drift right, especially in close. Your scan won't feel natural."

"Holy Cow!" *Starboard side*! I wasn't looking forward to the next pass; night, pitching deck, no needles and MOVLAS on the starboard side. I could imagine what my nugget pilot must be thinking.

I heard the voice of the seasoned A-7 driver with the hydraulic problem call the ball and watched his lights approach the dark shape of the ship. They stopped abruptly, showing it could be done. The A-7 driver's problems were ended. Ours were about to start.

I called our state (now down to 3.4) and was directed to tank. Good call, since there were still four of us in the bolter pattern and the rest of the marshal stack could show up at anytime. We might as well get our gas while the tanker had plenty to give. Besides, maybe the problem A-7 could be moved and the normal lens cleared. In any case, we welcomed the chance to get off the merry-go-round. CATCC directed us to "clean up, take angels three, texaco twelve o'clock, five

. . .The sweat that was trickling down my back under my wet suit suddenly began to feel very cold as I considered the option of ejection. . .

miles, cleared to switch button fourteen."

Great! Only now we had a problem: we couldn't clean up. The gear retracted but not the flaps. Whipping my PCL out, we went through the appropriate steps but nothing in or out of the book worked. That would really make the night interesting, I thought. I hadn't seen anything yet!

I informed both CATCC and the tanker of our problem, also letting the A-6 know we'd be at 225 knots to avoid overspeeding the flaps. Talking to our squadron representative in CATCC yielded no further answers. We reviewed our situation while executing the rendezvous with the tanker. I knew we'd covered everything, and felt reasonably confident that we were still one step ahead of the game.

The rendezvous was uneventful, although it seemed to take an eternity to complete at 225 knots. Our fuel had decreased to 3.0. As the basket came into view, it seemed to be moving a bit more than normal. We moved in and stabilized a few feet from the basket. It was well lit, for which I gave silent thanks. The first try didn't make it, but no sweat — it had been a while. I wasn't too concerned as I used my most confident and coaxing calls on my nugget pilot. After the fifth or sixth try, though, I allowed a little concern to creep into my mind.

It was painfully obvious that tanking with the flaps down was not easy. The slower speed was causing the basket to move more than usual. Any power application in the flaps down configuration caused us to balloon and produced excessive nose movement.

We seemed to get tantalizingly close each time, only to lose it at the last moment due to the bow wave or the pitching moment as power was applied to make the connection. I knew my pilot wanted to get into that basket just as badly as I did. His breathing was getting heavier with each attempt. The last power application seemed to be causing us to tap the rim each time despite a good approach. Eight, nine, ten, eleven tries . . . no luck. Finally, a wobbly stab and a boot of rudder on try No. 12 and we were in!

The green light came on as we drove the hose into the takeup reel. Relief! I relaxed in my straps and waited for the totalizer to show an increase. "106, you'll have to back out while we recycle our package." Stunned, I rogered the call while wondering what could possibly be next. Monitoring the transmissions, CATCC requested our state to which I replied 2.4. I knew they couldn't be any more pleased than we were at the prospect of chasing that elusive basket again. I soberly watched the swaying basket fade away as it journeyed back into its berth inside the buddy store and began to back out again. "106, cleared in."

I prayed for a less painful bout with the basket this time. Our prior experience revealed no secrets-to-success in plugging with flaps down. I silently kicked myself for not practicing full-flap tanking in the past. So much for hindsight.

We moved back into position and began our first approach. The first few tries weren't as bad as before, but we still weren't in. Each time we backed out for another try, I looked at the totalizer as it counted down 2.3, 2.2, 2.1. CATCC was silent, but I knew they were listening intently as I updated the state every 200 pounds. Try No. 6 and still no dice. The low-fuel light was glowing now. I didn't want to consider how long we should keep at this before calling it quits and making a play for the deck. We didn't know it, but our squadron had sent the squadron expert on barricades to CATCC.

The sweat that was trickling down my back under my wet suit suddenly began to feel very cold as I considered the option of ejection. The thought of losing a mega-buck F-14 and then swimming in the cold, black North Atlantic did not appeal to me in the least. I asked for a readout of the tapes from my pilot: 1,000 on the left, 900 on the right. We had to get in, now! Time was running out. Trying to exude the utmost confidence in my pilot, I kept my comments as positive as possible.

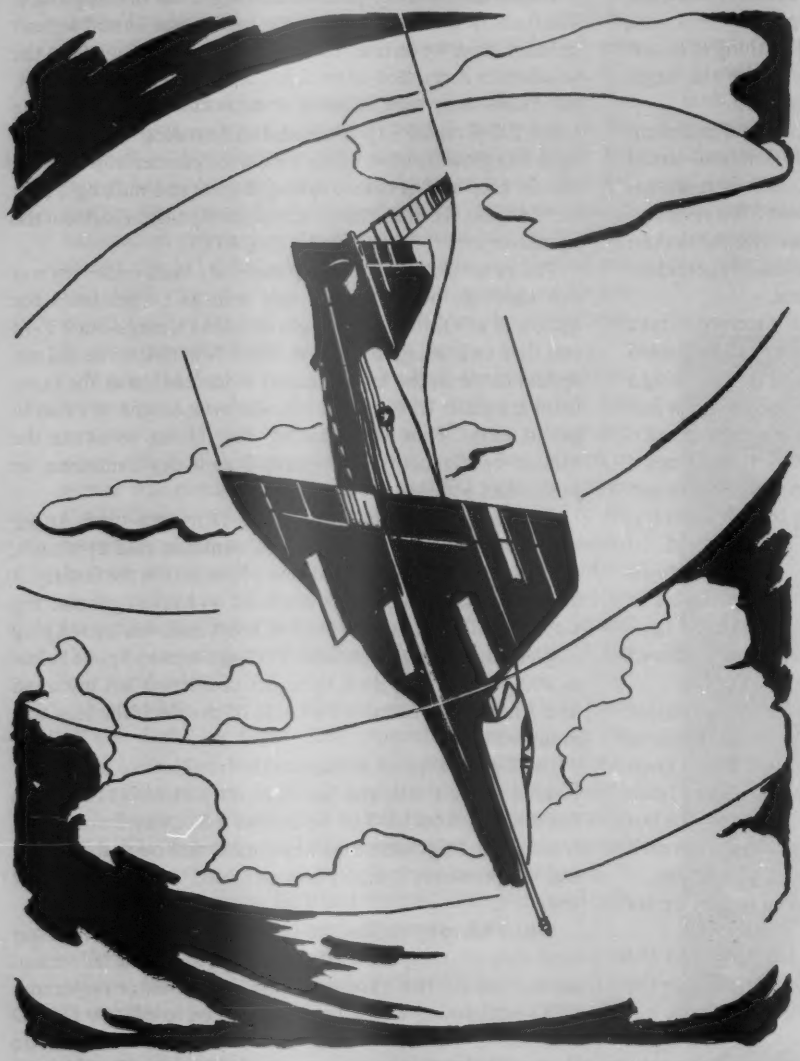
The last stab seemed to be doing us in each time. At my suggestion, we tried setting up a constant rate approach, trying to avoid any rapid addition of power. On the first try, it almost worked. So close! The second try looked good all the way in. I think perhaps we both willed it in. It was a good plug — green light and golden flow. The right tape had gone as low as 800 pounds. The dark thoughts of ejection left my mind and I no longer cared which side of the deck the lens was mounted on.

During our time on the tanker the troublesome launch bar yielded to the Crash and Salvage crew's electric saw, which allowed the stuck A-7 to be moved well away from Cat 4. Normal landings were now being made although that didn't end the problems Murphy had sprinkled throughout the air wing.

When Murphy strikes, he strikes big. An F-14 from our sister squadron experienced a combined hydraulic failure and an A-7 blew a tire upon touchdown. The latter required a FOD walkdown, which caused more wave-offs. A KA-6D was unable to retract his basket and then an EA-6B with no external lights had to take a gear check wave-off. No single aircraft made it aboard on the first try; *one F-14 made seven passes.* Paddles was really earning his money.

And us? A hook-skip bolter due to pitching deck on the first try. We snagged the three wire the next time around. That familiar deceleration never felt so good. After the last aircraft hit the deck, the CAG LSOs began looking over the passbook. One remarked, "You know, we saw just about everything tonight . . . except a barricade." He wrote the following words in the margin: "A night to remember."

Lt. Parsons, formerly a RIO with VF 102, has just checked aboard to be the next editor of Approach.



Skyhawk in a Spin. During a simulated attack on an airfield, aircraft involved in the BARCAP mixed it up. An A-4 engaged an F-5 at 31,000 feet MSL. The F-5 responded by executing a pitch-back maneuver, descending nose low. As the A-4 pilot initiated a climbing left turn at 26,000 to 27,000 feet to counter the F-5's move, the Skyhawk experienced a violent slat-induced departure, rolling 360 degrees to the left and pitching down. The A-4 driver immediately tried to bring his aircraft under control with neutralized controls, and throttle back to idle. The A-4 continued to roll and yaw, finally entering an upright spin to the left.

As the pilot applied anti-spin procedures, he noticed that the rudder pedal movement was restricted. The rotation began to slow with the aircraft's nose approximately 30 degrees low. As the pilot tried to recover by once again bringing the controls to the neutral position, the A-4 re-entered the spin. The left rudder pedal was now completely immovable and the right rudder pedal was severely restricted.

The pilot again applied anti-spin procedures as the Skyhawk continued through two more complete turns. The rotation slowed, with the nose approximately 70 degrees low, airspeed 160-180 KIAS. As the pilot gingerly moved the stick aft and left, the A-4 stabilized and began a slow recovery at about 10,000 feet MSL with a bottom out of 7,000 feet MSL. The aircraft had gone through six complete turns, and lost 17,000 feet.

Following recovery from the spin, the A-4 pilot checked his controls and had his wingman look him over. The wingman noted that the rudder was displaced to the right. As the aircraft set up for a landing, and the A-4 decelerated to landing speed, the nose began to yaw to the right passing 150 KIAS. A fast flat approach was flown to an arrestment, with heavy braking needed since the aircraft was drifting to the right and could not be aligned along the runway centerline. The A-4 finally stopped 2 feet from the right edge of the runway.

Post-flight inspection revealed that the forward fitting of the rudder power cylinder had separated from the vertical stabilizer bulkhead. One of two attaching bolts was missing and the second bolt was stripped, elongated and separated from the lock nut. In addition, the rudder power mechanism truss assembly was bent, along with the input rod.

This incident is an excellent example of a pilot who was prepared to handle the emergency. The com-

AIR BREAKS

manding officer stated in the hazard report: "Professional airmanship, thoroughly briefed spin procedures and training can be credited with saving a valuable asset." A well done to this aviator — Capt. D.H. Tierney, USMC, A-4 analyst, Naval Safety Center.

Crewmen of Note. If it weren't for the efforts and vigilance of air crewmen and ground troops, the Navy would be minus a lot more aircraft and drivers.

Case in point: An SH-3G was conducting a routine logistics and training flight when a SAR crewman heard an unusual sound coming from the tail section as the pilot began a practice autorotation. The crewman immediately called for the pilot to break off the maneuver. The aircraft made a normal landing, but by this time the unidentified sound had developed into a high-pitched metallic noise.

The petty officer then requested the pilot to taxi off the runway so that he could conduct a visual inspection of the aircraft tail section. During the walkaround, he noticed an odd splash pattern in the intermediate gearbox oil level sight gauge. The flight was aborted.

Post-flight inspection revealed a black substance in the gearbox oil which turned out to be the remains of an oil seal. The gearbox had to be removed. At no time during the flight was there any indication of the failure in the cockpit. Only AMH3 Erik Howell's alertness, intimate knowledge of the aircraft and responsiveness to an unusual situation saved this aircraft and crew from a mishap, or worse.

Then there was the line division petty officer of an embarked fighter squadron who was preparing to hook up the huffer to a squadron F-14 when he noticed a flash, and then sparks coming from a deck edge power cable hooked to a parked A-7. Running toward the A-7 at the fantail, he notified a flight deck crewman of the situation, then continued toward the Corsair. Reaching the A-7, he quickly disconnected the cable and pulled a fire hose in case the fire spread. Then he grabbed a fire bottle and extinguished the fire. By the time the fire party arrived, having responded to the flight deck petty officer's call, the fire was out. AD1 Danny C. Robinson of VF 11 thought fast and acted faster in this potentially catastrophic situation.

Give Me My Hat and My Glove (With Apologies to Rogers and Hammerstein). Our Phantom was part of an ACM engagement. After executing a push-away, the pilot attempted to pull back into the bogey, felt resistance to aft stick movement, and had to compensate with rudder input to return the aircraft to level flight. He regained limited nose authority and entered a gradual climb.

The pilot believed the binding was occurring at the base of the control stick, so he lifted the hood assembly and discovered a flight glove jammed into the linkage under the control stick base cover. He succeeded in partially dislodging the glove and regained normal stick movement. He then performed a controllability check and made an uneventful recovery. After landing, full forward movement of the stick enabled the complete removal of the errant glove.

Cockpit FOD is one of the most preventable types of FOD because most of the improper material is introduced by crewmen or mechanics. Personal gear — clothing, pencils, pens, kneeboard, can openers — is so easily detached from their place in your flight suit or flight bags. Constant attention to the equipment you bring into the cockpit is the only way to prevent cockpit FOD and potential disaster. (For more on cockpit FOD, see "FOD For Thought" October 1984.) — Ed.

Let's Be Careful Out There! Potential dangers involving aircraft exist not only in the air. Working around the plane, getting it ready for flight, especially when the engines are turning and the crew is in the cockpit, can be a source of danger.

A TA-4J plane captain was going through post-start checks. The pilot-in-command positioned the flaps full-down, S/B open, hook down, and spoilers armed. Both crewmen then placed their hands outside the cockpit so the plane captain could inspect the port speed brake.

At this point, electrical power became intermittent and the indicators in the cockpit began to fluctuate. The spoilers began to cycle open to closed, and the speed brakes began to close as well. Fortunately, the plane captain was clear of the speed brake.

In a second incident, an F-14 plane captain was also going through post-start checks and gave the Tomcat pilot the signal to extend the speed brake and IFR probe, followed by a hands-up signal. The crew responded by holding their hands outside the cockpit, and the plane captain approached the open speed brake. No sooner had he begun to approach the brake than it began to close. An apparent failure to hold the speed brake switch aft during the complete extension cycle —approximately two seconds — interrupted the electrical signal, resulting in the boards retracting.

Aircrew and ground crew have specific, direct responsibilities to maintain constant vigilance during each phase of every operation. ◄

Having a wingman join you doesn't guarantee good gear but it helps to verify when something is obviously wrong.

"Where Are Your Wheels?"

By Lt. James W. Galanie

LIKE many naval aviators, my appetite for flight was whetted during that first flight in a light civil airplane. Invited by a friend, I found the demands of controlled flight an exciting challenge. That plane was equipped with fixed tricycle gear, mechanical flaps that extended with a pull of a handle, no trim and the most basic of instrumentation.

In comparison, the Beechcraft Turbo-Mentor is a high-performance airplane by FAA standards. Stressed for aerobatic flight, fully instrumented and significantly faster than that first airplane, the T-34C exhibits handling qualities that make it a fine lead-in to the different communities. In order to obtain high-performance flight, most military aircraft operate with retractable landing gear.

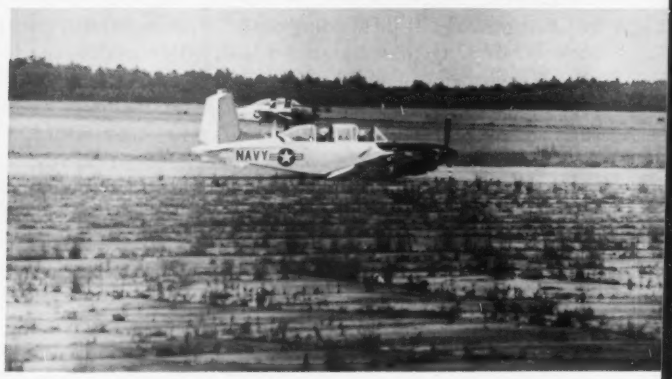
Whether you fly jets, props or helos, the rollers you need down for a safe landing also need to be out of the way to obtain designed performance.

As in any system, landing gear is prone to mechanical and human failure. World War II aircraft were designed with emergency hand cranks to lower the gear. Modern naval aircraft incorporate some method of alternate extension in case the primary means fail.

Landing gear emergencies are among the least time-critical of all airborne failures. Assuming they aren't caused by hydraulic malfunctions with impending control failure, they only become time-critical as fuel starvation becomes a factor. If you sustain a gear problem, stay at or below gear speed to avoid further complications and take the time to read the pocket checklist before doing anything else. Have an available aircraft join-up for an outside look. Fly by the tower or LSO for a gear check and talk to a rep on deck, who can refer to the big blue book for all the information.

My squadron recently avoided landing an A-7 with its nose gear up by "discovering" a little-known NATOPS fact. With certain system failures, when the hook is lowered first, the nose gear can be canted and hung up. By raising the hook, raising and then lowering the gear, followed by the hook, the emergency was solved. The airplane made it to the hangar bay for repair and a drop check rather than being craned off the ship or worse. (See "Not So Fast," Approach, March '86)

Having a wingman join you doesn't guarantee good gear but it helps to verify when something is obviously wrong. Like playing Indian poker, with your betting card held to the forehead for everyone to see but you, wheels that are invisible from the cockpit may provide the clue to your emergency. Avoid cycling the gear until you have analyzed the problem.



If it's not your day and the wheels won't indicate down, you will have to either land or jump out. An LSO on station greatly aids the landing effort. An A-7, with one main gear up, was safely diverted to Diego Garcia during the USS *Carl Vinson's* first cruise. The CAG LSO flew there first, then controlled the approach of the stricken Corsair.

In addition to mechanical failure, human error has resulted in a number of landing mishaps. Almost every plane in the inventory, multicrewed to single-seat, has landed gear up, despite a number of redundant systems. Many things can distract a pilot during that critical moment in the approach: a radio transmission, another airplane "suddenly" appearing, an in-flight emergency or having to battle instruments in vertigo-inducing conditions.

Procedures, checklists and crew coordination are the key to avoiding mishaps. If the landing checklist is interrupted, go back and do it again. No matter who did the checklist, the pilot-in-control is still responsible for making sure the plane is properly configured for landing. For the single-seat guys it's easy: *you* make sure *your* wheels are down.

Still, every year, the wheels watch at the end of the runway, the RSO at training bases, LSOs at the field or the ships; all these people save airplanes from turning gear-up passes into wheels-up landings. Mandatory gear calls at Navy and Marine Corps fields serve as a reminder of that final check.

When AMF (automatic manuevering flaps) was first incorporated in the A-7E, several experienced Corsair pilots landed gear up. In the A-7, the gear handle can be down, but unless the flap handle is out of the ISO utilities position, no wheels come down.

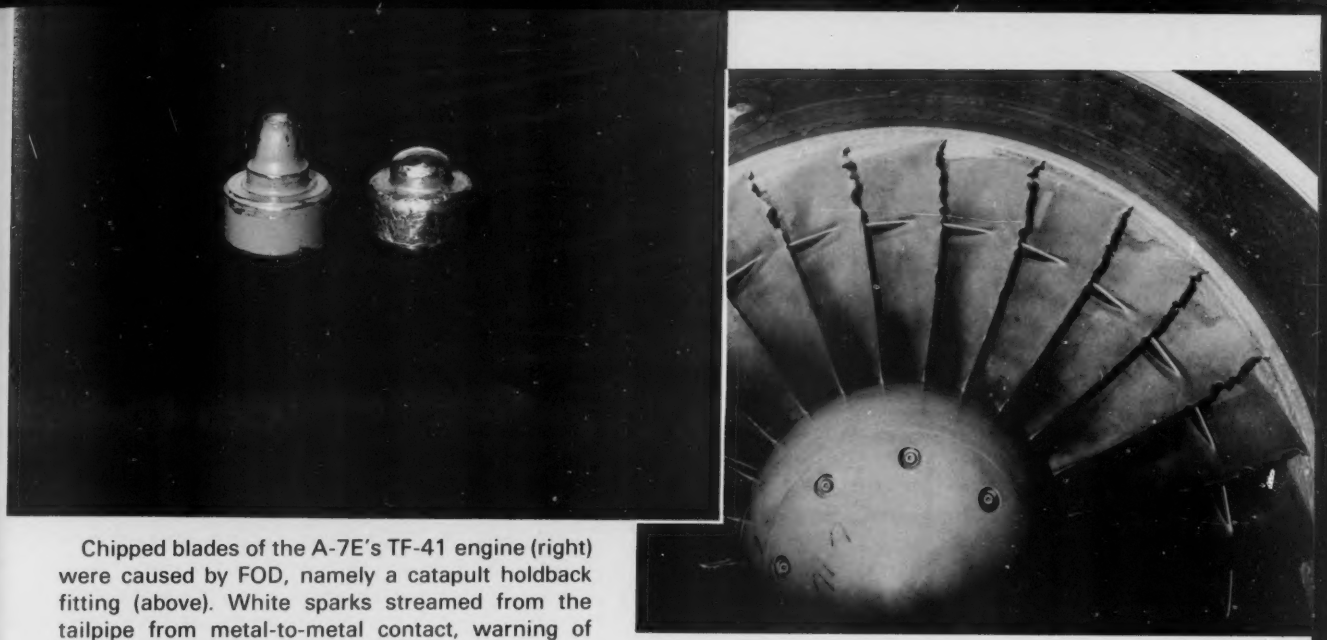
By fixating on the HUD AOA bracket to fly the approach, the pilots never noticed the cockpit warnings that something was wrong. With the AMF deployed, the aircraft handled similarly to an approach-configured A-7 all the way to landing. The first aviator this happened to thought his gear had collapsed on touchdown.

A-7 squadron SOPs now dictate that the AMF will be off for aircraft entering the break. If you want to get down to approach speed, you have to lower the flaps yourself; this serves as a safeguard to make sure the gear is down as well.

My first instructor in the training command gave me a valuable lesson in *reading* those precious indicators, by pulling the landing gear indicator circuit breaker from his cockpit. On my first high altitude dirty-up prior to entering the landing pattern, my cry to this sergrad ensign ("Sir, ah, something's wrong with the landing gear!") started a habit pattern of reading and registering what those cockpit indicators are trying to say.

The landing gear system in high performance military aircraft is occasionally prone to either mechanical or human failure. Quality assurance of the maintenance effort will decrease the likelihood of mechanical shortcomings. Following established emergency procedures will get a plane on the ground with minimal damage, if a landing in that configuration is possible. On the human side, the only acceptable percentage of unintentional gear-up landings is zero. ◄

Lt. Galanie graduated from the U.S. Naval Academy in 1981. He is an A-7E pilot with VA 27.



Chipped blades of the A-7E's TF-41 engine (right) were caused by FOD, namely a catapult holdback fitting (above). White sparks streamed from the tailpipe from metal-to-metal contact, warning of impending engine failure.

"On the Bolter, You've Got Engine Problems"

By Lt. D.C. Knutson

"YEAH, I boltered, but the Air Boss must be talking about someone else." I thought. I quickly looked over my engine instruments. RPM, TOT, oil pressure, oil quantity . . . everything looked normal.

"405, you had a long string of white sparks from your tailpipe."

A meek "Roger" was all I could muster. Blue or dark sparks from the A-7E's TF-41 engine usually means carbon, but white sparks means metal-to-metal contact and impending engine failure. I immediately set the RPM and increased the throttle friction. "I'll be making a wide pattern and straight-in approach," I said.

The Air Boss gave his usual calm "Roger." Approaching abeam and scanning my instruments, I recalled my previous encounter with catastrophic engine faiiure. That was not an experience I wanted to repeat. I decided to turn at the normal 180 for a normal approach. I quickly cinched up my lap belts, chest strap, located the ejection seat handle and FLU-8 toggles while taking my kneeboard off and cleaning up the cockpit. The engine started to surge slightly (still with no visible engine fluctuations) during the last 135 degrees of turn. One power reduction to get on speed and I called "Corsair ball." After that I used power to maintain glide slope. I remembered a quote from a previous skipper, "Once you call the ball, you're on company time."

A few white sparks were seen when I trapped, but still no engine instrument fluctuations. I taxied up the bow and shut down. The plane captain dcve the duct to check for FOD. He brought out what was left of a catapult holdback fitting, a piece of metal half the size of a fist. It had been jarred from its socket on the bolter, had bounced off the nose tire and deck and had been ingested down the intake.

In summary, it's true that even the smallest piece of metal can cause FOD, but it's nice to know that an engine may continue to run long enough to get aboard even with a 1-pound piece of metal banging around inside! It can happen to any of us — at any time. Be ready for it. ◄

Lt. Knutson is the wing LSO for CVW 11 on the USS *Enterprise* (CVN 65) and an A-7E pilot.

The Sting

By LCdr. G.P. Tornatore

. . . Finally the realization sank in that the 10-knot tailwind would either put me in a zero ground speed downwind autorotation recovery abeam the island or in a negative airspeed recovery over the water at night! . . .

THE tale that follows is aimed at the naval aviator who allows himself to be conned, just like in the Paul Newman — Robert Redford movie, except that personal greed of the cinema crooks is replaced by our sinister "can do" attitude.

The Scene. A Navy H-53 squadron, lock, stock and barrel, deploys on short notice for an immediate contingency requirement. After logging our 60th day at sea in the Indian Ocean, we realize that the requirement might not be so immediate. We have finally started to feel comfortable on what was previously only a VOD stop for us — a real aircraft carrier! We no longer get lost when we're more than 10 frames from our staterooms or the wardroom. We've weathered the rage of the Boss who had never experienced the pleasure of a palm-treed H-53 on the number two cat. We've suffered through the humiliation of that burning question, sheepishly asked — "Who's this guy, Roger Ball?"

We've established ourselves as professionals who have an important mission. But there's still that element of uncertainty that says we have to prove ourselves every day. Super egos have been shrunk by our being the new guy on the block.

The Set-Up. As a second-tour lieutenant with about 1,000 hours in model, I picked up a few interesting and challenging missions that the heavies had let slip through the crack. On one such occasion, "can do" took control and I determined that mission completion was more important than my chock time.

You can almost guess the rest. As I checked in with Strike from my over-the-horizon mission, cocksure that no one else could've completed that mission as quickly as I, I was greeted with an icy "Your signal is Buster." As I pushed land/launch just short of low lights, the Boss reinforced my screw-up as he informed me they had suspended a recovery cycle for me to hot pump. If you can picture an H-53 with the tail rotor tucked between the main mounts, that's how humble I was at that moment, to say nothing of being afraid to look at the caution panel for fear of inducing the wrong caution light and fouling the deck further.

My skipper, XO and OPS officer took turns chewing on me and I figured I'd be standing for a couple of days for lack of sitting anatomy. Well, I learned my lesson; no more improvising on the schedule for me. The only way to survive this cruise was to make every launch and recovery time within about five seconds.

The Bait. Five feet 9 inches tall, light brown hair, gorgeous blue eyes and legs that just wouldn't quit. I had just finished drooling at this seductive creature on the stage in the hangar bay and now she was in the jump seat next to me — close enough to kiss! After about 90 days at sea with no liberty, you don't invite the drummer up front. This was one of those missions you don't complain about, even if it was midnight. As we pressed on to the other battle group with the USO troop secure and resting after a dynamite show, I didn't realize it, but "can do" was there again. I had been a model of patience as the 30 minutes allotted for loading had stretched to over an hour and my expression hardly changed as strike informed me that the other deck was 75 miles farther than briefed. "Plenty of gas, just a little longer trip," I thought to myself. "Can do."

The Hook. A red deck on arrival and, once again, delays in offloading and onloading. Why do the problems always appear when you're already behind? As we depart for Mother, the clock becomes part of my scan, interspersed with a vivid image (in technicolor and 3D) of the OPS officer's vein-popping, red-faced verbal holocaust. Looks like I'm in store for another one-way conversation. Hope he realizes that the USO show must go on.

Better climb to altitude and check in as soon as possible; we're running an hour and a half late. It figures that we'd have a headwind on the way back and nighttime in the IO is strictly IMC. First contact with Strike is at 80 nm and the icy ring of the term "Buster" is now all too familiar.

The H-53 is a great instrument aircraft, and a very stable platform, however, past about 120 KIAS, the vibration level increases exponentially. The workload for the pilot and the incidence of vertigo increase similarly. In the true spirit of "can do," I spent the next 30 minutes at 155 KIAS, on the gages, working my tail off. I even told my co-pilot how uncomfortable I was and to keep an eye on me for signs of vertigo. As I checked in with Center for a CCA, the controller sounded surprised that I was at angels 2 but didn't bring me down. Let me see, wheels coming down, turning to final bearing, still feeling a slight case of "the leans." Good thing I've got a good co-pilot. Having a tough time holding altitude while bleeding off all that extra airspeed. Ah, there we go, on altitude and airspeed. Is that the ship in my chin bubble? Way too steep! We should be at 1,000 feet! "635 you're going well

"The trim seems to be fighting me at 45-degree angle of bank, 20-degree nose down and unable to correct."

above glide slope." I lower the collective and slow to 80 KIAS, almost an autorotation. We can make it — this is an autorotation. "I'm visual," I call to my co-pilot. I was visual all right. I was in an autorotation to the spud locker! "Can do" had me in a death grip. The temptation was overwhelming — anything to preclude a wave-off after being so late already. Finally the realization sank in that a 10-knot tailwind was putting me in a zero ground speed downwind autorotation recovery abeam the island or in a negative airspeed recovery over the water at night! I waved off at 200 feet, embarrassed, but alive. I could hear my co-pilot's sigh of relief.

Now I faced the transition from visual to instrument flying off the bow. As the world turned black, I worked as hard as I ever have in the cockpit. I extended upwind to give myself a chance to settle down and then turned downwind, a little sloppy but safe in the turn. Now to roll out.

The Sting. Roll out? What was the reciprocal heading? Why can't I concentrate? The trim seems to be fighting me. Are the controls driving? Where's the ball? It's hard to describe the feeling when you're really suffering from a full-blown case of vertigo, but many of you know exactly what I'm talking about — 500 feet above sea level, 45-degree angle of bank, 20-degree nose down, 1,000 FPM rate of descent and accelerating through 140 KIAS and unable to correct! The sting? Is this how it happens?

"I've got it!" My normally mild-mannered co-pilot grabbed the controls forcefully, set up straight and level downwind and the whole ordeal ended with an uneventful recovery.

Is there a lesson here? I hope so. Vertigo can be insidious. I certainly made errors in judgment on that particular flight, many of them affected greatly by ego and a strong "can do" attitude. I also did a few things right that night, the primary one being the fact that I conducted a solid brief which included specific limits and action to be taken in the case of vertigo. I had a good co-pilot who listened very well to the brief. I also learned that in order to become a teller of sea stories instead of the subject of a bad one, you have to come to grips with personal limitations as well as the limitations of the aircraft.

Like the movie, is there a "sting" out there somewhere with your name on it? Do you take off a little over computed max gross weight to keep from making another trip? Do you accept a marginal aircraft to make the flyoff successful? Do you accept marginal winds for shipboard landings? Do you accept VFR clearances when it's not so VFR? Don't let yourself be conned. Remember, "can do" . . . can kill.

LCdr. Tornatore is safety officer on the USS *Iwo Jima* (LPH 2). He said his story is "fiction based on a true story."

"Ghost" on the Flight Line

There are times at this base when the wind blows off the bay like a tropical storm in the Pacific.

This particular night, one worker in the electric shop was coming back from the hot pits and noticed what could be an extremely hazardous condition.

He described it like this: "It looked like a ghost jumping and bouncing along the flight line."

Upon investigating, this brave electrician found out that his "ghost" was actually a huge bundle of plastic wrap. Being a responsible petty officer, he retrieved his "ghost," which earlier had eluded members of the aircrew walking to the hangar from the hot pits.

Hazards of this nature can be avoided by putting trash and garbage in their proper place, not loose outside a hangar to become potential "ghosts."

Spiritedmouse

Helos Need Heels

Several months ago, our squadron lost an SH-3 to the great King Neptune. It was on a dark night, right before recovery. Due to a tail rotor malfunction the aircraft impacted the water and rolled inverted. Luckily, all four crew members made their escape, but it was due to luck more than training.

When their aircraft abruptly rolled inverted and filled with water, one of the pilots and one sensor operator maintained their orientation and egressed exactly how we've trained in the squadron and at water survival. However, the other pilot could not find his window jettison handle, but the overhead (now underneath) greenhouse window had shattered on impact. He was lucky and escaped through an opening that wasn't supposed to be there!

The second sensor operator became disoriented and could not find his escape window. By the very same magic and luck that allows a helicopter to fly, the armed saltwater activated marine markers carried in the sponson, ignited and outlined the window.

When is the HEELS (Helicopter Emergency Egress Lighting System) that was promised years ago going to be retrofitted into the SH-3? What's the holdup? Red tape? Money? To the helicopter pilot, neither seems very important when he sucks up the landing gear and ascends into the night. Some of us don't want to rely on our luck.

Escapemouse

Let Anymouse Know. We encourage you to write Anymouse whenever you see "a mishap about to happen." If you know of a hair-raising situation in the air or on the deck, let Anymouse know about it. You may help someone else avoid an unsafe incident.

Anymouse is a unique department in Approach where no names are used. All information is anonymous. In fact, Anymouse was born three decades ago when someone couldn't spell "anonymous" and signed his letter "anymouse." Thus, a mouse wearing flight gear has become a world-wide naval aviation safety symbol.

Over the years we have found it is often more prudent and speedy to report unsafe situations anonymously. Keep in mind, though, that Anymouse is not interested in personality conflicts or non-constructive criticism of individuals. All views expressed are those of the writers and do not imply endorsement by the Naval Safety Center.

For your convenience, postpaid Anymouse mailing forms are available in most ready rooms and from most flight safety officers. Use of the form is not mandatory, though. Just jot down your thoughts and mail to Anymouse, Approach Magazine, Naval Safety Center, NAS Norfolk, VA 23511-5796.

ANYMOUSE

Latest information on this item from AIR-51155, Program Manager, is that delivery of kits to the SH-3 helicopter fleet should begin by early summer 1986. It is expected that these modifications will be carried out by a field team commencing mid or late summer 1986. SH-3s in SDLM will be modified as part of the process.

The following information has been developed concerning other model helicopters:

H-46 *HEELS retrofit by NARF field team started in March of 1986. Plans call for incorporation of 10 to 15 kits per month into 1988.*

SH-60 *HEELS incorporation in production aircraft has started. Retrofit plan is being finalized.*

SH-2 *This is a funded H-2 OSIP item with kit deliveries expected in FY 86 through FY 87.*

H-53 *Emergency egress lighting is being formulated for the H-53 OSIP; no final dates are available.*

A Hairy Flight Story

Anyone in the Navy who takes flying seriously knows that being current means more than just meeting the minimums. It's a major problem when you're in a flying billet at a command which has no aircraft. You have to rely on face time at your host squadron, scrounging flight time whenever you can.

Well, I was going to be different. I was a professional and wanted to really stay up to speed. Since my host squadron was treating me like a leper, I volunteered to fly functional check flights in another type aircraft. I was staying in the community and the command was grateful for a co-pilot who didn't have to be dragged screaming to the aircraft. They were so grateful they even let me occasionally fly a full "up" one.

Well, there I was on a nice morning flying in a full "up" airplane. It was going to be an op-area fam for a few passengers in the back. I was grateful for the flight time and read the checklist well, which was all I was really qualified to do in the aircraft. The aircraft commander had a lot of hours in model and was very senior to me. An uneventful start, takeoff and beautiful mountain scenery was eventually followed by "You have it, follow that road back to NAS."

We were 20 miles away following the interstate through the mountains and I was pleased that this route would take us over my house. The 3,000-foot ceiling that had been well above us at 500 feet AGL was coming down as we progressed, probably caused by the ground getting higher as we went further into the mountains.

"Take it down to 200 feet," the aircraft commander said as I noticed that at this airspeed we couldn't maneuver and comfortably do a 180. Up ahead the clouds quickly grabbed the ground and the highway disappeared.

"Start a climb and we'll punch through," the pilot said to the co-pilot with the expired instrument ticket.

I called "on the gauges," with the radar altimeter in my primary scan. I didn't see my life flash before me. Instead, I saw every article I had ever read about this same situation, i.e., IFR, mountains, no planning, etc. My basic air work was tolerable and the RADALT blessed us by showing a climb. A fast glance at the windscreen to see if it was getting lighter outside showed thick ice on the wipers.

"Airspeed" was the next call as it bled dangerously low. I didn't know if the pilot static system was iced over or not, but I lowered the nose. I asked for a frequency to call approach and get a clearance and the aircraft commander took the controls. After one call on the radio, I saw my attitude gyro had failed, or so I thought. A cross-check showed it hadn't failed; we **really were** 40 degrees nose down!

I offered to help out on the controls and we leveled off just as we hit a hole in the clouds where we could see the ground. The ride into the hole (to keep sight of the ground) got the passengers sick and the airspeed call became like a broken record.

We picked our way through the mountains as the ice began to shed and returned to NAS the way we had come.

Our debrief was short, and didn't include the sick passengers. The aircraft commander admitted it was a stupid decision. I mentally cursed myself for not saying something before we got that far. I had only flown with him once before, and we were both glad to be back alive. It was another cheap lesson learned.

We drew our own bottom lines. I was so ignorant of the aircraft that I probably wasn't any help at all. I got myself in the situation by saying "I can handle anything that flies." Now it's back to writing waiver letters; it's a lot safer. I sure wish my host squadron would put me on the flight schedule.

Happytobealivemouse

Unsafe Aircraft Walk-around

Two pilots, one a qualified instructor (the squadron XO), the other just out of the FRS, were doing the exterior walk-around prior to an evening training flight. Both were seen walking through the prop arc of No. 4 engine.

Even though it was only the edge of the arc and both were well clear of the bottom blade, they violated an important safety rule. Little slips like this soon build into habit patterns that can cause an accident.

Preventing this problem requires only a little extra thought. The walking distance added to the preflight is about eight steps, hardly a major effort considering the potential consequences of this unsafe practice.

Goodhabitmouse

Fuelishness

By Lt. Bud Bishop

USS *Boat* had just returned from 100 days on Gonzo Station in the Indian Ocean. It had been a successful line period, challenging our aircrews time and again. On this particular day, the weather was not looking good, with towering cumulus and stratus layers to 35,000 feet. A few squalls were in the area, and it looked like the weather was starting to deteriorate.

I was crewed with an experienced pilot for a routine tanker flight. We had 26,000 pounds of fuel, with only 4,000 pounds scheduled to give away. I briefed a secondary mission of flying a simulated FCF profile so that I could get my qual. We discussed the flight in depth, concentrating on some of the weather aspects. The aircraft we were assigned had just landed on the previous recovery. While maintenance personnel turned it around, we obtained a brief from the last aircrew on its status.

We were told that the selectable fuel quantity needle was intermittent whenever the wings or drop-tanks were selected, but it worked fine when the fuselage tanks were selected. The main fuel quantity gauge seemed to work well, but they said that it had stuck momentarily at 4,000 pounds during their approach. However, they selected "main" on the selectable needle, and it matched the indication on the main quantity needle.

We discussed as a crew whether we should down the aircraft but decided to go ahead, man it up and check the gauges during turnup. Fuel was sorely needed airborne with the weather deteriorating, and there wasn't another tanker available to replace ours. We rationalized that we had 26K, a give of only 4.0 and would never be far from the carrier even if we did have fuel quantity indicator problems. We were forging that well-known chain that leads to mishaps.

We manned up, started the engines, checked the fuel quantity indicating system and found that the selectable needle was "out to lunch" as advertised. The main needle (registering the tank that directly feeds the engines) indicated a good quantity, though. Our crew decision was to go with it. The system looked adequate for the intended flight profile, even though we were uneasy about the stray trons in our fuel quantity gauge. We forged another link when we heard that the *one* aircraft we were scheduled to tank was having mechanical problems, and was not going to launch. That fact simply cemented our decision to launch; now we were really fat.

We launched for a practice FCF profile, in a tanker with no scheduled give, in less than optimum weather. No problem — usually. We launched Case II, but the ceiling shortly dropped to 1,800. It was going to be a *colorful* recovery with all the squalls around!

We climbed to 20,000 feet, trying to complete the items on the FCF profile sheet. Due to our gross weight, we could not climb to the required 40,000 feet. Besides, we wanted to stay lower in case any of the recovering aircraft needed some fuel. We noted cloud layers at 13,000, 15,000 and a solid block from 17,000 to 19,000 feet. We found a hole abeam the ship at eight miles that seemed suitable for refueling, and informed tanker control that we would amend our tanking altitude from 10,000 to 14,000 due to weather. We had a layer below us at 13,000 and one above us at 17,000. We were all set.

Just then tanker control called us back. An A-7 tanker needed a package check. Great! He could check ours at the same time. We gave the A-7 our position and waited. Glancing down at the fuel needles, we noticed that the selectable needle was not functioning even when the main tanks were selected. We now had all of our chips riding on that main indicating needle.

Suddenly, the A-7 appeared in front of us, coming out of a cloud and crossing right to left. Initiating a rendezvous maneuver, we worked to keep him in sight. My pilot placed the fuel ready switch in "Flt."

It has happened before, and will probably happen again . . .

We were in a violent squall that reduced visibility substantially. Murphy's Law just added another link to the chain — we boltered.

while reaching for the fuel ready switch, the pilot **inadvertently actuated the fuselage fuel dump switch.** We spent the next 8 to 10 minutes dodging clouds as we completed the join-up. I noticed during this time that our main fuel needle was stuck on 4.0, when it should normally be reading 8.0. I told the pilot that I thought our main needle was "outta there." He acknowledged it, but was concentrating on the A-7. As we got closer, the A-7 pilot transmitted "DUMPS." *That* was when it hit us. We had dumped the fuselage tanks down to the standpipe and were transferring all of our fuel remaining from the wings and drop-tanks directly out the back end. The chain continued to grow.

The pilot secured the dumps and switched to "Flt," checking his switchology this time. When the checkout was complete, we returned to our holding position and attempted to determine our fuel state. We decided on the worst case, arriving at a figure of 15,000 pounds. We estimated we had dumped 7,000 pounds of fuel. But we didn't *know*, and the only way to find out was to keep transferring the wing fuel into our main tanks, then either dump the wings or pass fuel to other aircraft until our main bag started to empty. We accepted the latter plan and determined to accomplish this right before the recovery. We called other squadron aircraft and asked them to join for tanking.

It was a difficult rendezvous but was accomplished without incident. We gave away as much gas as we could to each aircraft. One asked us what our state was and how much we had to give. We replied, "We're not sure." Finally, as we tanked the last aircraft, our main needle started to fall again, dropping to 7.0. We secured the tanker package and reported ourselves as a "dry tanker" to departure. It looked like the main needle was working. However, we didn't know that another link had just been added to the chain.

We were given radar vectors to the 10 DME fix on a Case III approach. As we descended, our main needle was still indicating 7.0. "Hey, we have more gas than we thought!" We figured, and were feeling a lot better.

We commenced a normal approach, then watched in dismay as our main needle dropped to 4.0 when we dirtied up. Maybe we *didn't* have as much as we thought. Although 4.0 was still enough at this point, we were 3,000 pounds below what we planned for, due to delays in the recovery. Flying in and out of rain squalls, we struggled to stay lined up, and worked hard to see the boat. At the ball call, I glanced down to read our fuel state, and was shocked to see the needle at 2.0! A-6s have flamed out with as much as 700 pounds remaining on the indicator, and with each Case III approach we knew we would use around 800-1,000 pounds of gas.

As the pilot struggled to keep the aircraft lined up, I held windshield air on so he could see through his windscreen. We were in a violent squall that substantially reduced visibility. Murphy's Law just added another link to the chain — we boltered. The moment we touched down the main needle went to *zero*, and the master caution light came on as the left generator warning light illuminated. As we passed 800 feet on climbout, the main needle went to 2.0, then to 4.0, then back to 2.0, then fluctuated in little increments in the 2.0 area. I didn't have any idea how much fuel we **really** had.

CATCC knew we were low state from our ball call, so they readied another tanker in case we boltered again.

On the next approach we caught the three-wire, and rolled out of the wires indicating 1,300 pounds remaining. The selectable needle was still dead. As I reflected on all of the decisions during the brief and the flight, I realized that we were taking small chances here and there that, combined with one switchology error and two applications of Murphy's Law endangered us and our aircraft. A *minor* fuel indicator problem wasn't so minor after all. ◄

Lt. Bishop flies A-6Es with VA 52 based at NAS Whidbey Island, Wash., on deployment in USS *Carl Vinson* (CVN 70). He is the squadron schedules officer.

"Pull Your Fingers C

By Lt. Terry Jones

sOut of Your Head"

"ARE you losing your hearing?" That was just another annoying question in large block letters on a poster outside the safety office. My attitude about hearing protection was almost apathetic, an attitude that was shared by my fellow aviators. I wore hearing protection when I remembered to bring it with me and if I forgot it, I would stick my fingers in my ears.

OK, so I'm carrying something in one hand. Then I'd put one finger from the free hand in the ear closest to the noise. Sound funny? Then just watch the activity on a flight line and see how many so-called intelligent people are walking around with one finger sticking in the side of their heads. Hey, don't laugh; it works! You can tell the exposed ear hurts when the person bends his head down trying to block the exposed ear with his shoulder.

My attitude about hearing conservation changed when I realized, during an annual flight physical, that my hearing was deteriorating at an alarming rate. To discover why and stop the loss, I started a small study.

It was obvious that the high noise environment to which I was exposed was in and around the aircraft. I used an SH-3 helicopter as the subject of the study. As an instructor in the FRS, it was convenient. With the help of the squadron safety officer, and the industrial hygiene clinic of Naval Air Station North Island, I gathered reliable information on noise levels under various conditions. The results were alarming. They indicated dangerously high levels of noise in the cockpit and cabin area and a lack of hearing protection in the helmets available to the pilots and aircrew.

The instrument I used to measure noise levels was the Metro reader. This device is slightly larger than a cigarette pack, with a small microphone attached to a 5-foot cord. For two weeks, I carried the metro reader everywhere — at home, at work — although I knew that the majority of the damage was caused when flying. To be fair, I had to check all parts of the environment, not just the aircraft.

Before continuing, let's review what decibel (db) measurements present a danger. The federal government has set eight hours of exposure to 85 db of noise as the standard for a 24-hour period. What that standard means is that the average person can be exposed to that level without sustaining a permanent hearing loss. Note that the standard says average person; some people will sustain damage over shorter

exposures of similar magnitude. To calculate the decibel levels, I used the following formula:

$$T = 16 * 2^{((L-80)/4)*}$$

L = Effective sound level
T = Time in hours
*((L-80)/4) is an exponent of 2

With this formula, a base time limit could be set on all noise levels gathered throughout the test.

In testing the environment, the highest noise levels existed while flying or walking around the flight line while turbine engines were turning. The only other high sustained noise level measured was recorded in the car while driving. Driving a small, four-cylinder car with the windows open and the stereo on produced an average of 87db. Although this reading is high, I spend only 30 minutes in the car per day.

I eliminated any other problem sources and concentrated on the flight environment. When testing the noise levels in the cockpit, three metro readers were used to record general cockpit noise levels and exposure levels of the pilot and crew. For the pilot and crewmen, the metro readers' microphones were placed inside the helmet ear cups. The microphone and attaching cord were small enough not to interfere with the helmet's noise protection and still pick up noise levels reaching the ear within the cup.

Five test flights were conducted during normal squadron training flights with an average flight time of 2.5 hours. One flight test result proved invalid due to battery failure of all three metro readers.

The metro reader provides hard copy readings on adding machine paper with noise levels recorded every 10 minutes. All three metro readers were turned on and off at the same time and a log of the flight was maintained by the first crewman.

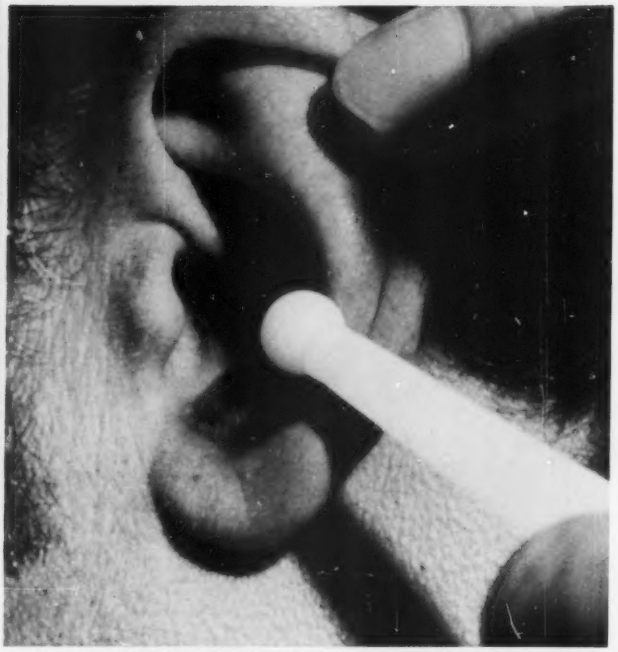
The metro readers were turned on as we entered the flight line. All five flights were hot pump crew switches so the No. 1 engine was turning with the No. 2 engine and rotor system secured. On the flight line the noise level recorded on the metro reader exposed to the environment was extremely high, from 114 db to 123 db. Inside the helmets the ears were exposed from 96 db to 95 db. Once inside the cockpit environment, the reading dropped to 94 db with 89 db recorded inside the helmets. Once the No. 2 engine was started and rotor system engaged, cockpit and cabin noise level fluxuated between 99 and 101 without much variation. When the No. 2 engine was secured the db levels dropped to 87. Inside both helmets with both engines running and rotor system engaged, db levels also fluctuated between 92 and 95. The cumulative noise level unprotected inside the cockpit and cabin was 103.8 db while inside the helmets it was 92.6 db.

As seen from these results, the helmet does a fairly good job of cutting the noise levels down. Unfortunately, an 11 db cut is not enough. A noise level at the ear of 92.6 db allows the aircrew only 1.8 hours of exposure time. With an average flight time of 2.5 hours for most H-3 missions, the aircrew would sustain some hearing loss. The degree would vary with the individual.

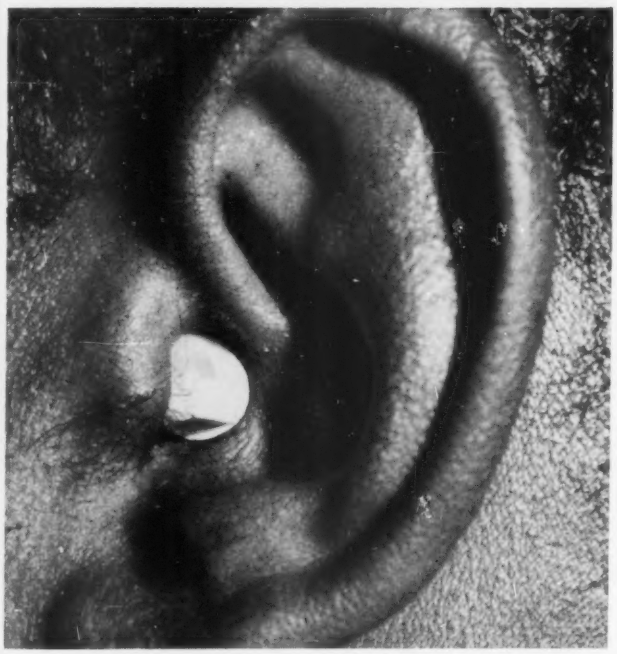
The pilots and AWs in the H-3 must wear additional hearing protection devices. The standard foam EAR or Decidamp earplugs will cut the db level by 29, well within the safety zone.

Most aircrew, including me, used to avoid wearing earplugs while flying. In a random poll of the squadron, pilots and AWs were asked if they used earplugs while flying. About half of the pilots used some type of earplugs, but less than one-third of the AWs did. Those not using earplugs, gave two consistent reasons. The first was that with earplugs it was

It is important to get a good fit for all earplugs except the foam form brand. The people at the industrial hygiene clinic measured my ear canal and noted my right ear took a small and my left a medium. It is not uncommon to have a variation in size so it should be checked.



This photo shows usage of the instrument which measures the diameter of the external ear canal.



This photo shows correct placement of the earplug after insertion.

difficult to hear the internal cockpit communication (ICS) and UHF radio. The other was that it was extremely uncomfortable (almost irritating) to use earplugs for three hours.

On the flights following my poll, I wore a different brand of earplugs on each flight to check their comfort and to see if hearing the ICS or radio was a problem. The brands included Ear Defender V-5IR, Comfit, Triple Flange, Silaflex and the very common EAR or Decidamp foam earplugs.

First, it was important to get a good fit for all the earplugs except the foam form brand. The people at the industrial hygiene clinic measured my ear canal and noted that my right ear took a small and my left a medium. It is not uncommon to have a variation in size so it should be checked.

All brands of earplugs tested were properly fitted and caused no discomfort for the first half of the flight, but after about two hours all the brands began to irritate the ear canal wall to some degree. By the end of the three-hour flight, it was a relief to pull them out.

The ability to hear the radio was a problem which varied, depending on the aircraft. Some H-3s have weaker communication systems. Overall, it was not difficult for a pilot to adjust the radios properly to hear with earplugs inserted. With earplugs, the radio required a little more attention, and at times a quick hand to turn down the ICS and turn up the radio or vice versa. The AW aircrewmen had a valid complaint, especially when using the extention cords that allow them to walk around the cabin area. It was impossible for me to hear ICS and radio communication with a walk-around cord while wearing earplugs.

Overall, there was some justification for complaints about using earplugs while flying in an H-3. The earplugs are uncomfortable over a three-hour period, and there are communication problems when a walk-around cord is used. Each individual must decide before flying whether to endure the discomfort or damage his hearing. Also, note that the helmet provides enough protection during half the flight. One option is to use earplugs until they become uncomfortable, then pull them out. For a long-term solution, we need better helmets for sound protection, improved sound insulation and stronger intercockpit communications.

This article focuses on the H-3 helicopter, but many other areas in the Navy have jobs with high noise levels. A general rule to follow is that if you're in an area that requires you to shout for someone to hear you over the background noise, you should be wearing some form of hearing protection. If you want more information, contact the Navy industrial hygiene clinic in your area. ◄

Lt. Jones flies H-3s with Helicopter Anti-Submarine Squadron 10, NAS North Island, San Diego, Calif.

Capt. Scott Paul, USMC (left),
Lt. Alex Cimos, USN (right).

Capt. Scott Paul, USMC
Lt. ALex Cimos
VT 3

Capt. Paul (pilot) and Lt. Cimos (co-pilot), both instructors in VT 3, were en route from NAS Jacksonville to NAS Whiting Field in a T-34C, when they heard several transmissions from ATC to a civil aircraft having electrical problems. A Beech Baron had lost all navigation and flight instruments. VHF transmissions were deteriorating rapidly. Approach control asked if the T-34 could be of assistance in locating the now-NORDO aircraft and directing him to a landing site. The plan called for the T-34 to be vectored to VMC conditions and then to the civilian aircraft that, it was presumed, would also remain VMC. Complying with vectors from approach control, Capt. Paul and Lt. Cimos were able to spot the twin in the deteriorating weather at approximately four miles. After joining on the Beech Baron and gaining the attention of an increasingly distraught pilot, Capt. Paul and Lt. Cimos led the aircraft to a local field. The Navy aircraft contacted the tower and, after explaining the situation, executed a low approach to the active runway, directing the Baron to land.

BRAVO ZULU

Lt. Skip Bayes
Ens. Richard D. Keltner
AW2 Timothy L. Mitchell
AN Carter L. Potter
HS 10

After conducting an hour of night dipping in the local offshore area with their SH-3H, Lt. Skip Bayes (IP) and Ens. Richard D. Keltner (FRP) entered the local traffic pattern at OLF Imperial Beach. Lt. Bayes demonstrated two night touch and go landings to the main runway. Control was then given to Ens. Keltner who made two run-on landings. On the next landing, the aircraft began a lateral shake after 200 feet of ground roll. Lt. Bayes took control of the aircraft and immediately lifted into a hover over the runway. After a stable hover was established over the approach end, first crewman AW2 Mitchell donned a gunner's belt, opened the cargo door and checked for a flat tail tire as weight was placed on the wheel. The tail wheel was determined to be all right and Lt. Bayes slowly lowered the helicopter onto its main mounts. As power was reduced, a slow left roll developed. The helicopter was lifted into a hover and air-taxied back approximately 20 feet to facilitate a pilot's inspection of the landing area, with the spotlight, for possible unevenness. Lt. Bayes observed the left main mount cylinder with both wheels still attached lying on runway 26 at the attempted landing spot. After declaring an emergency, the crew determined that the upper strut assembly was still attached to the aircraft and in the down and locked position. Contact was made with the squadron and after consultation, Lt. Bayes flew the aircraft to NAS North Island where more extensive crash crew and maintenance facilities were available. Several pallets as well as two heavy timbers and several mattresses were located and taken to landing pad 2, and placed in position to serve as "temporary support." Utilizing radio and LSE guidance from the on-deck personnel, the HAC had to "thread the needle" with the remaining strut into the hole made by pallets and timbers. The first attempt was unsuccessful when the aircraft began to roll left and Lt. Bayes again had to lift into a hover. With the first crewman now stationed at the personnel door, the helicopter was again positioned for a landing attempt. As the remaining portion of the strut was positioned into the support, the sponson settled onto the mattress and pallets. The aircraft appeared stable and shutdown was accomplished by slowly retarding the speed selectors, preventing any torquing effects on the fuselage. Both engines were secured and the rotor allowed to coast to a stop.

From left to right:
Lt. Skip Bayes,
Ens. Richard D. Keltner,
AW2 Timothy L. Mitchell,
and AN Carter L. Potter

We're at 18,000 Feet, Aren't We?

By Lt. Gregory E. Upright

IT was rainy and cold outside, cold as only the North Sea of Japan can be in December. We were starting our second week of continuous day and night flying and the fatigue factor had set in. The ship's brief, for a late night (early morning) SSC mission, went off without a hitch. We carried out the supplemental crew brief, an important part of any CV flight, with particular attention to the possibility of a slippery, icy deck, and icing conditions while airborne. The brief was adequate, but by no means as thorough as briefs had been at the beginning of the cruise two months earlier. Complacency had started creeping into everyday life. Suit-up was carried out quickly. We were used to donning our dry suits by now, so we arrived at the aircraft a little ahead of schedule. On man-up, I remembered a plane captain who had been burned by a hot total temperature probe due to a combination of a popped gear/hook circuit breaker and the pitot-heat switch being turned on. In order to keep this from happening again, I left the switch in the off position until just before the cat shot. Taxi to the cat was slippery but uneventful. Run-up and instrument checks were 4.0 and off we went. As we cleared the deck, I noticed the radar altimeter didn't work. I filed that away for future discussion. Climbing through 2.5, I realized I hadn't turned on the pitot-heat. Since we were popeye, I reached back and flicked the switch on without looking at it so I wouldn't get disoriented. We broke out of the cloud cover at about 10,000 feet and proceeded on our mission. During the flight, we descended through the cloud cover numerous times to ID SSC contacts. After the first few times, we noticed that our radar altimeter was working intermittently at best. We had recycled it after heading outbound on our mission. The INS system was also doing some strange things. At the time, neither problem was particularly bothersome; later in the flight they became important.

After completing our sector, we reported the contacts and climbed to 18,000 feet for the flight back to the carrier. It was a moonless night with no horizon; probably the worst we had encountered to date. As we headed back to the ship, I felt the aircraft begin a descent. I knew that my pilot was aware of what was going on, so I wasn't concerned. He'd tell me in a few seconds why we were descending. When I noticed the pressure altimeter holding a constant altitude, I quickly became concerned and asked, "Why are we descending?" The pilot came back with a "What!" and a 16-unit, 4-G pull-up to level flight! I looked at the altimeter again, and it still read 18,000. Our pitot static system appeared to be inoperative. I double-checked the pitot-heat switch and it was indeed in the "on" position. Since that wasn't the problem, we guessed that rain had gotten into the lines of the pitot-static system while the plane sat on deck and had frozen, plugging the system. Recognizing the problem, we started a shallow descent on the

. . .We broke out of the cloud cover at about 10,000 feet and proceeded on our mission. . .

altitude derived from the INS system. That worked until about 15,000 (or so my system said), then that altitude started climbing. I stopped looking at it as it went through 42,000 feet. The INS system altitude was now useless. We leveled off at 15,000 feet and looked at our remaining options. The cabin pressure gauge read 8,000 feet, which was correct for any altitude between 8,000 and 23,000 feet. Since this was our only altitude source, we decided to dump cabin pressure and use this gauge. With the pressure dumped, the gauge still read 8,000 feet. We climbed to check the gauge out, and sure enough, it climbed with us. We had really been at 8,000 feet when we thought we were at 15,000 feet. After discussing our options, we joined the overhead tanker and flew on its wing for almost an hour before commencing a section approach. As we began the approach, CATCC was confused as to who needed needles and who was flying on whose wing. They finally locked up the lead aircraft (not the one who needed it). At about 1¼ miles, lead kissed us off, and CATTC again became confused and started calling them for a big right correction to counter their left drift. CATCC forgot about us from that point until touchdown. Paddles initiated an LSO contact at approximately one mile from the ship. My pilot, having flown for well over an hour on the tanker's wing, had a case of the leans and a slight case of vertigo once the tanker broke away. Fortunately, we had just had a "there I was" discussion on this topic, so the helpful suggestions were still fresh in my mind. I started giving altitudes, ship orientation and wing position in relation to the deck. Transition to the ball and the trap were uneventful. The radar altimeter didn't work at all during the approach.

The possibility for disaster on this flight was incredible. We had ascended and descended through a thick cloud layer numerous times with a marginal radar altimeter, and had relied almost exclusively on the pressure altimeter for our altitude information. Since the altimeter had frozen, that information source was erroneous. The pilot, my normal flight partner, was a CAT II with numerous hours in the A-6. As such, I was confident in his ability, and trusted him implicitly. I *knew* we were descending, but I *assumed* he did too. Normally, he would tell me what he was doing or why he was doing it, if it wasn't already clear. I should have asked about our descent right away, since it was totally inconsistent with the way we normally flew. By this time, our crew coordination had broken down.

The final point is this: complacency is a big problem, not only in briefs, but also when flying with the same crew member day after day. Confidence and trust combine to make flying great. Trust is fine and crew coordination is even better, but when crew coordination breaks down, watch out! Always temper trust with the saying we've all heard since we first started in the training command: "Watch out for the other guy — he's trying to kill you." ◄

Lt. Upright is a 1982 graduate of the Naval Academy. He is currently serving as a B/N with VA 52 and is the squadron AT/AO branch officer.

They're Trying to Kill You

By Lt. Brian Wood

. . . When talking safety, you are the strongest (and sometimes only) link in the chain of your own personal well-being. . .

FROM the very first day that I checked into the aviation community, I heard people using one phrase: "They're trying to kill you." Sometimes it was said by an instructor trying to emphasize a point to naive, wide-eyed students. In the fleet, sometimes a more experienced squadronmate said it when he was warning you to be heads up. Sooner or later, a situation comes up when you are actually saying it to yourself — "They're trying to kill me."

It was a summer day as my first-cruise pilot and I manned our F-14 Tomcat for a scheduled 2+15 1V1 intercept flight. The carrier was scheduled to pull into port the next day, our first of the cruise. The weather was typical for August in the Philippine Op Area: numerous thunderstorms with a solid cloud layer above 15,000 feet. Since our flight was scheduled to run 30 minutes longer than the normal cycle, we were briefed to receive 3,000 pounds of fuel from an airborne tanker.

We launched a Case II as the carrier picked its way around the building cumulus clouds. On the stroke we lost our computer signal data converter (CSDC), which affects not only the inertial navigation system and the AWG-9 radar, but also the pilot's primary attitude reference, the vertical display indicator (VDI) and the ACLS/ILS needles. "They're trying to kill me," I thought. After several unsuccessful attempts to reset the system, we decided to press on.

Finding tanker fuel unavailable, we proceeded to our assigned station and passed the information about our CSDC "data freeze" to our ready room via the ship's controller. When our flight lead for the intercept mission was newly tasked with weather recce, we remained on station performing an improvised max conserve SSC mission, paying special attention to our fuel status (17.0 or 17,000 pounds).

As recovery time approached, we headed back to the ship (fuel state 9.0). En route, we observed VFR conditions with many buildups in the immediate vicinity. We were to join up with our lead at 7,000 feet, 22 NM from the carrier, for an expected Case II recovery. The weather in the marshal stack was marginal VMC at best, and we recommended individual, vice section, approaches. The controllers accepted this suggestion and restructured the stack. At our expected approach time we pushed with our fuel at 6.2, 500 pounds below "ladder" (required fuel state to land at max trap, flying at max conserve), as the lead plane in a Case II recovery.

We passed overhead the carrier at 800 feet for the break and saw five aircraft waiting to launch from the waist catapults. More significantly, the carrier was steering a course along the edge of a rainstorm with cloud cover down to 100 feet. Climbing to the 1,200-foot spin pattern, we monitored the launch, waiting for a clear deck. After our first lap, our lead entered the pattern. The ceiling was now 1,300 feet and getting lower. With three aircraft still on deck, another spin was necessary prior to breaking.

The second time around, we saw a previously uncounted C-2 making its way to Cat 3 (still three to launch). Our fuel state was bingo plus 500 pounds (5.3). There were now four Tomcats in the spin pattern with an EA-6 approaching five miles astern. "They're trying to kill me," I thought again. One of the F-14s advised the boss of the congestion in the spin pattern and the decreasing visibility and ceiling (1,100 feet and getting lower).

Finally, after our fourth trip in the spin pattern, the launch was completed and a Tomcat entered the break. One of the recently-launched Tomcats recommended changing to a Case III recovery. The controllers passed a Signal Delta to the remaining aircraft in marshal. We broke downwind as No. 3 in the pattern. The first aircraft was waved off for a foul deck. No. 2 trapped. At the 180 position we could see the ship, but directly aft of it was a solid downpour.

We turned to maintain a normal interval, descending to 450 feet at the 90. The ship, however, was now obscured by heavy rain. We kept the turn in, erring on the high side, and at the 45, we were at 400 feet. Rolling into the groove (380 feet, still

high), the datums on the lens appeared, but no ball. "They're trying to kill me." To our "Clara" call, paddles responded, "You're high, keep it coming." The datums went out of view due to the declining visibility. In the middle we were still high and paddles called for a wave-off at the same time we initiated one ourselves (fuel state 4.3).

We climbed ahead to 500 feet and immediately went IMC. We could hear another F-14 having similar problems in the pattern behind us, also executing a wave-off. Tower passed, "99 switch marshal for Case III instructions." My pilot started a left-hand climbing turn to the new holding fix, still relying on his standby gyro. We seemed excessively nose high for our airspeed (170 KIAS) and I asked, "How are you doing?" He responded that he was having trouble with vertigo. I told him to concentrate on his instruments, work on aircraft attitude and get the power up.

The new marshal stack consisted of three low-state F-14s, one low-state EA-6, and several A-7s and KA-6s that had remained in holding. We informed marshal that our fuel state was now 4.0, 800 pounds below bingo for our primary divert field. Although we had briefed "blue water ops" (i.e., no diverts to be considered) the ship diverted the attack aircraft and launched two KA-7s to tank the remaining four. This was a critical decision-making point for us. We had enough fuel to divert, but we would land with less than 2,000 pounds of fuel, leaving very little margin for other "outside" factors.

Additionally, the weather at our primary divert field was marginal at best, with our secondary divert only slightly better. Because the weather conditions in the Philippines can change from VFR to "Woxof" in a span of minutes, it was entirely possible that the three A-7s ahead of us might be forced to make field arrestments. Thus we could arrive at a divert field with an "emergency" fuel state, marginal weather and an obstructed runway. We decide to let the ship take us aboard. The current weather at the ship was less than 100 and a half.

While in marshal, my pilot and I discussed our options. If we boltered or waved off on our pass, we would turn downwind even if still IMC. If the aircraft flamed out, we would try to eject close by the carrier or another battle group ship. Although we had covered ejection possibilities in countless flight briefs, this was the first time either one of us had ever discussed it for real. A recent F-14 ejection by an old roommate during his most recent WESTPAC cruise when his aircraft ran out of fuel on a bingo profile was fresh in my mind.

The KA-7 was climbing to 5,000 feet and our flight lead headed inbound, descending to 7,000 feet. We followed him 10 miles in trail at 6,000 feet. The tanker reported that he was IMC at 5,000 feet. Our lead neared the CV (still IMC) and declared that tanking was not possible. He then commenced a bingo profile climb towards the primary divert while looking for a clear area to tank. We arrived two minutes later, still IMC, and did the same (fuel approximately 2.5). "They're trying to kill me." In the climb, we contacted one of our squadron aircraft that had recently launched and asked if they had seen any areas suitable for tanking. They responded that the 210 radial at 45-50 NM around 15,000 feet was clear. We adjusted our heading to 200 degrees (our divert was bearing approximately 190 degrees for 166 NM).

The carrier now called for an immediate recovery (fuel state 1,900 pounds). Once established on final bearing we descended to 1,200 feet. Unknown to us, the EA-6 and a third F-14 had already commenced their approaches on a different frequency. Our lead was six miles behind us.

Marshal told us to dirty up at 15 NM. Not knowing there was traffic ahead of us and wanting to conserve as much fuel as possible, we held off until 12 NM. Due to the resulting closure on the F-14 ahead, we were instructed to perform a 360-degree spacing turn at 10 NM. Still IMC, we cleaned up and climbed to 1,500 feet. Descent to 1,200 feet was accomplished once we were re-established on final bearing. With the CSDC failure both ICLS and ACLS information were unavailable, so we performed a mode three CCA with self-contained backup. Despite repeated requests, advisory calls from approach were minimal. "They're trying to kill me."

The LSO spotted us at a mile and made some good lineup correction calls. We broke out at 800 feet after 30 continuous minutes of partial panel/IMC flight. The VIS was still low at three-fourths mile as we called "Tomcat ball, 1.3, partial panel." My pilot flew an outstanding pass, catching an OK 2 wire. Our lead followed us in with a hook skip 1, 2, 3 to an OK 4 wire. All three F-14s and the EA-6 landed with fuel states between 1.1 and 1.3, enough for one or two quick trips around the VFR pattern.

So — what went wrong? What can we learn?

- Approach times were six minutes early, causing five aircraft to arrive overhead waiting for a clear deck. Valuable fuel was expended in the spin pattern. Though the case recovery was changed once the ship had been advised, better control of approach times could have prevented the problem, and would have allowed only a few aircraft overhead the ship at any given time.
- Tanker control was poor. The tankers were launched into areas of unknown visibility. Aircraft that were launched just prior to our recovery could have been used more effectively by the carrier to find clear tanking areas.
- Marshal/approach did not fully understand the implications of a CSDC failure in an F-14. Although we informed each controlling agency of our problem, few advisory calls were made on our mode III recovery.
- CATCC needed to be told about low fuel states and to make timely decisions with regard to divert fields. Even though the primary divert was 170 to 180 NM from the carrier, we had briefed and consequently were biased toward blue water ops. A closer monitoring of fuel states and bingo fuel requirements might have made it easier to decide whether or not to divert.

Happily, the situation ended without mishap, but it had the potential for a major disaster. There were many lessons learned (and some relearned) from this experience. Following established procedures and staying on top of the situation will help prevent potentially catastrophic situations. When you go flying, remember — "They're trying to kill you." You will improve your chances for survival. ◄

Lt. Wood is an F-14 RIO with the "Fighting Renegades" of VF 24.

. . .Being safely on deck anywhere is far better than being en route to nowhere . . .

A Funny Thing Happened on the Way to the Ship

By Lt. Chuck Smith

IT was supposed to be a routine S-3A logistics flight from NAS Southeast to USS *Boat*. After unloading some priority cargo, we'd gas up and return back to NAS Southeast.

Your typical beach det crew sat at the brief. The PIC was the "old OPS O" on his last flight prior to transfer. Due to the specific gravity of collar devices, I was the co-pilot, also awaiting transfer. The aft crew consisted of a squadron TACCO and an A-7 pilot, both returning to the boat for workups. We covered the route, weather and fuels, then spent some time covering emergencies and ICS procedures with our guest. Besides our two seaward-bound aviators, we carried an assortment of mail, aircraft parts and some 2,000 pounds of exercise material in the bomb bays. Adding two AERO-1Ds and a full fuel load, we reached a higher level of math working out the weight and balance.

An hour after takeoff we watched the ground turn to ocean. Two hours of blue and we'd reach our "haze gray-and-underway" destination. NAV checks complete, I entered the destination's PIM and diverts (all two) in the INS. One hundred and fifty miles off-shore, the aircraft yawed right and the starboard (No. 2) engine tapes dropped to idle. The PIC moved the throttle up and back with no effect and we analysed the cause was a possible linkage failure. City Center quickly obliged my request for reverse routing to NAS Southeast. A carrier landing was certainly not our first choice of the options at this point.

Because the engine was stable at idle, we'd wait and secure it after landing. No sense giving up a good generator and hydraulic system, right? Then we took another look at that "idle" engine and realized the only things idle about it were the oil and hydraulic pressures. Fuel flow, Ng, ITT and fan speed were all below idle. With this new discovery we were now ready to flip a coin — linkage failure or fuel control? But we never got the opportunity to scientifically determine the cause of our sick engine; the tapes jumped and our No. 2 engine tried to vibrate and rock its way to the Safety Center's TFOA list. We secured it.

About this time, our previously silent guest inquired as to the current status of the aircraft. I attempted to reassure him by saying, "Don't worry, the S-3A's got two of everything and you only need one to get home on." I've since changed that line slightly.

Emergency declared, checklist complete to the last item: "Land as soon as practical." Now we had two choices:

- Fly two hours back to NAS Southeast single-engine where we had the parts and support to fix our sick engine painlessly, or
- Fly a 45-minute divert to an AFB and retire while awaiting the resolution of the logistics nightmare we'd cause.

Being the old NATOPS officer, I was pretty good at trivia and injected the following:

Land as soon as practical definition: Extended flight is not recommended. The landing site and duration of flight are at the discretion of the pilot in command.

PIC: "Well, they can't hang us for playing it safe. The AFB's got A-gear."

Co-pilot: "City Center, AFB please"

TACCO: "No boat, all right!"

A-7 Driver: "Hey, it's Friday; they've got a great club."

I called ahead, advising the AFB of the nature of our "known" emergency, the requirement for an arrested landing, and gave our ETA. It was a good thing I did, because they initiated a recall and recovered all of their low-state F-4s before we arrived. We ended up closing the field for 35 minutes, as you'll see.

With the single-engine landing procedures reviewed, we debated who had the most actual SE landings. (Our guest chose not to participate in this discussion.) This review included such items as gross weight, fuel dump (we would still be at MAX TRAP with all of that cargo aboard, even after a healthy fuel dump), braking on arrestment rollout to prevent "two blocking" the gear, and procedures for landing rollout should we miss the wire. With a cumulative 6,000 hours and close to a dozen single-engine landings, we felt rather confident with our aircraft and situation.

Co-pilot: "AFB Tower, Viking 700 gear down, three-mile straight-in, land and arrest."

Tower: "Viking 700 cleared to land and arrest."

Two seconds prior to touchdown I saw the No. 1 hydraulic level light illuminate and immediately checked the pressure. It was still holding as I looked out again to see if we caught the wire.

Co-pilot: "Good trap."

PIC: "Speed brakes deployed, starting to brake."

My eyes came back in to check the No. 1 hydraulic system and caught the master caution light illuminating for the No. 1 hydraulic pressure.

PIC: "Think we blew the port tire, I'm off the brakes."

Co-pilot: "There goes the starboard, we lost No. 1 hydraulic pressure on landing."

Motion stopped. The No. 1 hydraulic pressure gauge sat at zero so we shut down, secured and stepped out to say hello to the crash crew.

The PIC made a perfect landing, evident by the trail of hydraulic fluid on centerline starting about the A-gear motors, and the two black lines straddling centerline another 200 feet down. The two flat main mounts looked rather unimpressive, while a viscous liquid poured from our port wheel well causing a large red puddle to form.

Several things had happened! The No. 2 engine fuel control shaft had seized, reducing fuel flow to a restricted fuel feed, producing a "hung" engine with no throttle response.

The vibrations and tape flux occurred because the seized shaft started breaking free and then reseizing every few seconds setting up surges and oscillations within the engine. Post-flight troubleshooting determined the engine might light off if attempted, but would never again reach idle. (A hot or hung start was predicted.)

The return line to the No. 1 hydraulic reservoir (utility and one-half of the flight controls) separated shortly prior to or at landing, causing complete loss of the No. 1 hydraulic system. Without the No. 2 engine running, we would have had no hydraulic pressure.

With pressure applied to the normal braking system on rollout, and then the loss of utility hydraulic pressure, the system automatically reverted to emergency brakes, causing brake lockup before pressure could be released. Thus two blown tires and rapid deceleration.

The end result was a single-engine, emergency-flight-control-only S-3A. The good news was that it was on the runway, not airborne.

What could have happened? Compound emergencies in the S-3A are virtually unheard of outside the trainer; the redundancy of its reliable equipment leads to a potentially hazardous false sense of security, which we had nearly allowed this to justify our returning to NAS Southeast. Had we been airborne and lost the No. 1 hydraulic system with the No. 2 engine (and hydraulic system) already lost, NATOPS says:

WARNING

"Single-engine EFCS landing should not be attempted unless *ejection* is impossible."

Cost to the government: two main mounts, one fuel control, some hydraulic fluid and the logistics mission delayed 24 hours.

Potential cost: one S-3A and four aviators.

Moral of the story: Land as soon as practical. If extended flight is not required to reach a suitable field for your emergency, then don't push it. Being safely on-deck anywhere is far better than being en route to nowhere. Here's one case where it paid off. ◄

Lt. Smith is attending the U.S. Naval Test Pilot School, Patuxent River, Md. Previously, he was aircraft commander, mission commander, AMO and NATOPS officer, flying S-3As with VS 30 on board the USS *Forrestal* (CV 59) and the USS *Saratoga* (CV 60).

A Different Kind of Midair

By LCdr. George R. Standridge

SCENE I. IT was a severe clear day in the Cajun south. Highly qualified and possessing an instrument card, dual-engine rating, a whopping 350 flight hours and a newly-acquired commercial license, our hero prepared to depart in a rented Cessna for another airfield in Mississippi, where he was to pick up his charter. A minor radio problem delayed the departure, and the sun was low on the horizon by the time he was airborne.

During the flight the Cessna developed VOR problems, and the pilot requested and received a vector from Southern Approach Control. It was a perfect vector, and with steel nerves the pilot continued VFR toward his destination in the approaching dusk. For some unknown reason, the pilot flew a course 25 degrees off the vector, arriving over a lighted but uncontrolled airfield that he decided was his destination.

Once on deck, he called the control tower, but received no answer because he wasn't at a field with a tower. Meanwhile, the pilot of a corporate jet belonging to the father of the Cessna's chartered passenger (we're talking megabucks) was waiting for the Cessna pilot at the real destination. Having heard the Cessna pilot call on tower frequency, the corporate pilot informed the pilot that he had mistakenly landed at an airfield 10 miles north of his destination. Undaunted, our hero took off again. Once airborne, he requested, and received a vector, 170 degrees at 10 miles. Perfect.

As the pilot made a right turn to his assigned heading, he spotted a lighted airport, which was on a bearing of 100 degrees, 20 miles away, with dual runways and a split white beacon. Entering a wide right downwind and picking up a VFR interval, our hero turned in on a 2½-mile final to runway 25 right with landing light on, because he thought he was NORDO. We will now put our hero in starboard delta as the plot thickens.

SCENE 2: The world of intermediate strike jet training: Enter our other actor, cool guy — 5 feet 9 inches of raw sex appeal and aviation skill. Our T-2 student zips up his speed-chaps. It's a clear night in the Florida panhandle as our second hero walks to his War-Buckeye. It doesn't look as ugly in the dark.

Launching into the VFR pattern, the student pilot was becoming "one with the force" and "the meatball." The left runway was closed and the left-hand pattern was being flown using the right runway for touch-and-go landings. The RDO (runway duty officer) was in place; a highly seasoned instructor pilot was at the hold short awaiting takeoff, and the tower crew was alert to all reported traffic. Our hero called abeam and was cleared for a touch-and-go. An A-4 was just checking in at 10 miles on a TACAN approach (taxi light on) with tower monitoring and transmitting to the A-4 on a tower secondary frequency. To recap, Cessna at 2½ miles with landing light on, TA-4 at 10, also with his landing light on and the T-2 abeam in a left hand VFR pattern.

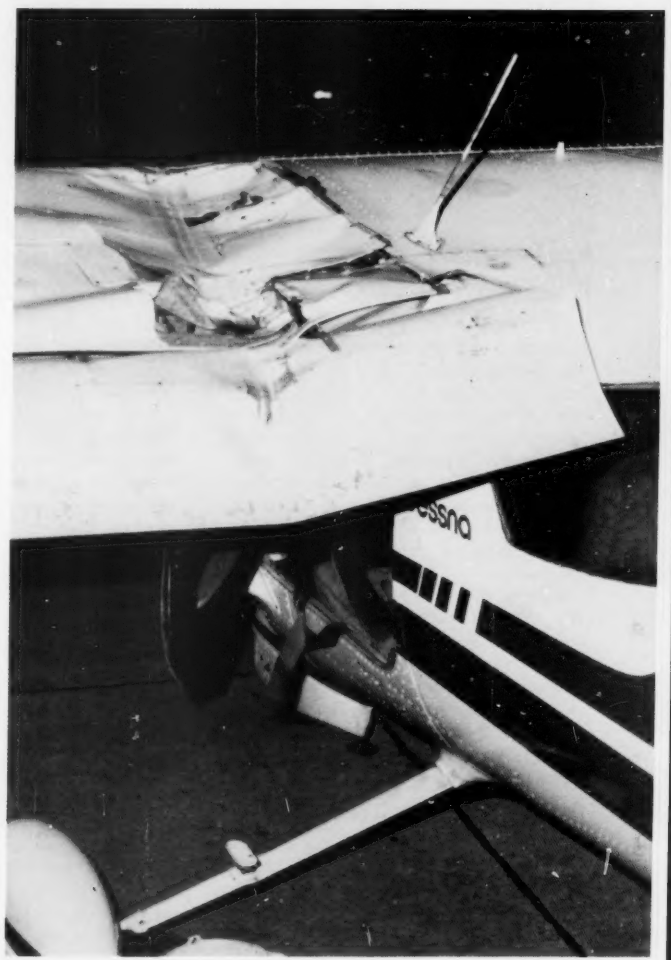
SCENE III. The plots merged. The civvie in the Cessna thought he was NORDO and the T-2 was above the Cessna. The RDO heard tower reply to the TA-4 that just checked in at 10 miles and saw a dim light (the Cessna) he **assumed** to be the TA-4. The TA-4 pilot at the hold short assumed the same. As the T-2 rolled wings level in the groove, the RDO and the pilot at the hold short saw the lights of the two aircraft merge and both called for a wave-off. The T-2 pilot felt a thump prior to the wave-off call and initiated a wave-off on his own. The Cessna pilot heard turbines come over his aircraft, felt a collision and was immediately in a 60-degree left bank and 20 degrees nose down at 150 feet AGL. When he recovered, he was lined up for the left runway and landed, still thinking he was at his destination airport! He was lucky to be alive. The T-2 got a visual inspection from another aircraft in the pattern. There was no visible damage, but a precautionary arrested landing was performed.

SCENE IV. My house, that night at 2000, recovering from a fight with my wife after coming home a little late from happy hour. Phone rings. The ODO said one of our T-2 solos just had a midair with a Cessna 150. The shock was like a shot of ice water to my heart and woke me up instantly. I told him to call the Navy Command Center, then the CO. I would be there in 10 minutes.

I got there in five, scoping the area for a fireball. Once in the ready room, I saw the T-2 pilot and a bewildered looking guy in civilian clothes. I was still looking for the fireball but there wasn't one. Then all hell broke loose as my skipper and XO arrived, followed by the wing commander and base CO. They were all looking for a fireball too. The civilian? He was still looking for the other airport. We interviewed everyone and, with a lot of help from my friends, all the messages and phone calls were made on time. Let me thank them again, in print. The pre-mishap plan worked as advertised.

SCENE V: Aftermath. The damage to the Cessna included a ruptured fuel cell, and repairs which totalled less than $5,000. The T-2's right main mount tire sidewall was cut only slightly. There was no other damage except to my deeply receding hairline. Now what was I supposed to do? I had made phone calls to God and country, followed up with an OPREP-3, and I didn't even have a Class C mishap. You tell me; how can you have a midair between a jet and a Cessna 150 and not hurt anyone? As I made follow-up calls to the Navy chain-of-command, I got a couple of 'YGTBSM' answers when I said it wasn't a Class A mishap. The T-2 student? We painted his name on the side of the jet and painted a Cessna 150 kill underneath. The Cessna pilot? We turned him over to the FAA and the National Transportation Safety Board. Me? I just went home and kicked the dog. ◄

LCdr. Standridge is the admin officer for VT 4 and was previously the safety officer. He has over 2,000 hours in A-7s and served in VA 46, VA 174 and as CVW-1 LSO in USS *America* (CV 66).



LETTERS

Re: Visual Illusions (Dec '85)

NAS Brunswick, Maine — As usual, I thoroughly enjoyed your December 1985 issue of Approach magazine. Your articles "Winterize Now" and "Crew Communication Prevents Mishaps" were particularly informative and relevant to those of us in the maritime patrol community. The article, "Visual Illusions," however, was one of the best articles I had read in a long time. I thought it was very well researched and quite thought-provoking.

After reading the article, I checked the author's name and discovered to my surprise that we were both assigned to the same command. Lt. Bill Bellinger, however, is now LCdr. Bill Bellinger, a selected reservist flying P-3C Update II aircraft with the Patrol Squadron Master Augment Unit (MAU) at NAS Brunswick, Maine. He is no longer affiliated with VP 64 at NAS Willow Grove, Pa.

It may seem like a small point, but we are proud to have pilots of the professional caliber of LCdr. Bellinger flying with us and would like others to know it, too.

Cdr. J.E. Anderson, USNR
Commanding Officer
Patrol Squadron Master Augment Unit

Re: Too Much Hazardous Cargo (Anymouse, Dec '85)

FPO New York, N.Y. — The author left out one important "how": how to avoid carrying improperly manifested and packaged hazardous cargo. Naval enlisted code (NEC) 2821, Air Transportation Specialist, designates a graduate of the Air Transportation Course given at Sheppard Air Force Base, Wichita Falls, Texas. This training includes packaging, loading and certification of hazardous cargo.

The use of a petty officer with an NEC 2821 would help prevent improper loading of hazardous materials.

Unfortunately many personnel do not consider this NEC to be career-enhancing. Such is not the case. These educated specialists are one of the keys to solving the hazardous cargo problem, so long as they are properly recognized and used.

ABH1 Ben Turner (NEC 2821)
USS *Guam* (LPH 9)

Re: Ball, Ball, Ball (Feb '86)

NAS Cecil Field, Fla. — Congratulations on the article by Capt. Zerr. It highlights the fact that some pilots mistake flying their aircraft all the way to touchdown with "Hold what you've got until impact, the LSO will keep you out of trouble." It's hard to imagine someone completing training command and FRS CQ who would not scan lineup and angle-of-attack from in-close to at-the-ramp.

The literal interpretation of "Ball, Ball, Ball" was never meant to exclude a continuing scan of lineup and angle-of-attack prior to touchdown but instead is used to emphasize glide slope *control*, as opposed to deck-spotting and deck-fixation. Ramp strikes occur as the result of deck-fixation and deck-spotting, not from rapid lineup scan. Even the most timely LSO call cannot prevent a mishap if the pilot only scanned one of many approach parameters. Common sense and peripheral vision make for OK-passes, not blind mechanical reactions.

The TYCOMS, LSO School and every LSO in the fleet should know that the only way to fly a pass is with a continual, 100 percent scan of meatball, lineup and angle-of-attack all the way to touchdown. Let's put to rest once and for all any notion that Paddles jumps in the cockpit in-close to at-the-ramp to handle lineup and angle-of-attack.

Lt. Steve Dailey
Public Affairs Officer
Landing Signal Officer School

Re: C-130 Letter (Jan '86)

Memphis, Tenn. — LCdr. Brown's incredulity regarding landing a C-130 aboard ship brings to mind another interesting proposal of the time. Although it never matured, it is worth relating. I doubt that very many remember the proposal; actually, since it was a "paper" exercise, there weren't too many people involved.

If memory serves, one of the driving issues of the day was the J-79 engine shortage and how to minimize assets trapped in the supply pipeline. When industry got wind of the C-130 experiment, Boeing submitted an "unsolicited proposal" to modify a 727 for the purpose of supplying J-79s directly from CONUS to the fleet. The proposal was quite detailed and included, in addition to engineering factors, considerable discussion of crew requirements and duties.

Flights were to be one-stop max from CONUS to carriers in the Med. (Talk about hours of sheer boredom followed by moments of stark terror!) Airframe modifications included a tail-hook (thrust reversal ala C-130 was not considered feasible) and installation of cat-hooks for a launch bridle hookup. The proposal was quite detailed, but actual structural changes to accommodate shipboard landing and launch were minimal. Boeing was convinced that the 727 could hack it; landing sink-rates, arrestment and cat launches were all figured to be within the capability of this airplane.

The C-130 was in the inventory and no one wanted to go any further and fund this experiment. Besides, there remained one problem that Boeing could not answer with complete satisfaction. How does the aircraft-handler eat a dud 727?

Cdr. R.M. Tvede Jr., USN (Ret.)
3051 Woodhills Dr.

Re: Navy Safety Posters

FPO San Francisco — The current procedure of using the back cover of Approach for a naval aviation safety poster is not meeting the needs of our shops. These posters are too small and not colorful enough to draw people's attention. Once they are placed on a wall or bulletin board, they blend into the surroundings and get lost instead of standing out and attracting attention.

I propose a monthly or bimonthly poster as a centerfold in Approach. It could be similar to the new Playboy foldout in size and accessibility. A multicolored poster three times the size of a normal sheet of paper, which simply can be pulled out of the magazine, will provide another effective way to improve safety.

LCdr. L.S. Parr
Safety Officer
VA 165

• Thanks for your suggestion, a good one. It so happens we're planning to distribute large safety posters. Approach expects to publish a listing in the next issue on what's available. — Ed.

Re: SAR Drill (Jan '85)

NAS Whidbey Island, Wash. — I have been instructing in naval aviation physiology and related topics since mid-1969 and have been witness to an amazing array of procedures, equipment and modifications all aimed at saving the aircrew member's life.

One of my habits is to go back and re-read old Approach issues to see what has changed in the intervening time since its publication. I was doing this when I opened the January, 1985, issue.

In the article "SAR Drill" by Capt. Rick Curlin, USMC, there is one flaw. To those in the flight and survival equipment business, it is a glaring error: "After water entry and boarding of his life raft, the student naval flight officer (SFNO) (sic) activated his PRC-63 survival radio which *has only a beacon signal and no press-to-talk capability."* (emphasis mine)

As a chief hospital corpsman who not only doesn't fly but doesn't even like being this tall, I know that the PRC-63 has a beacon, voice transmitter and a receiver operating on 243.0 MHz.

HMC George F. LaMora
Aviation Physiology
Training Unit
U.S. Naval Hospital

Got a safety question that needs a fast answer? Now you've got our number! A toll-free safety hot line is now available for use 24 hours a day in the continental U.S., Hawaii, Puerto Rico and the Virgin Islands. (Persons in Virginia and the D.C. area should call Autovon 564-3520 or (804) 444-3520.) Give us a call — we're here to help!

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